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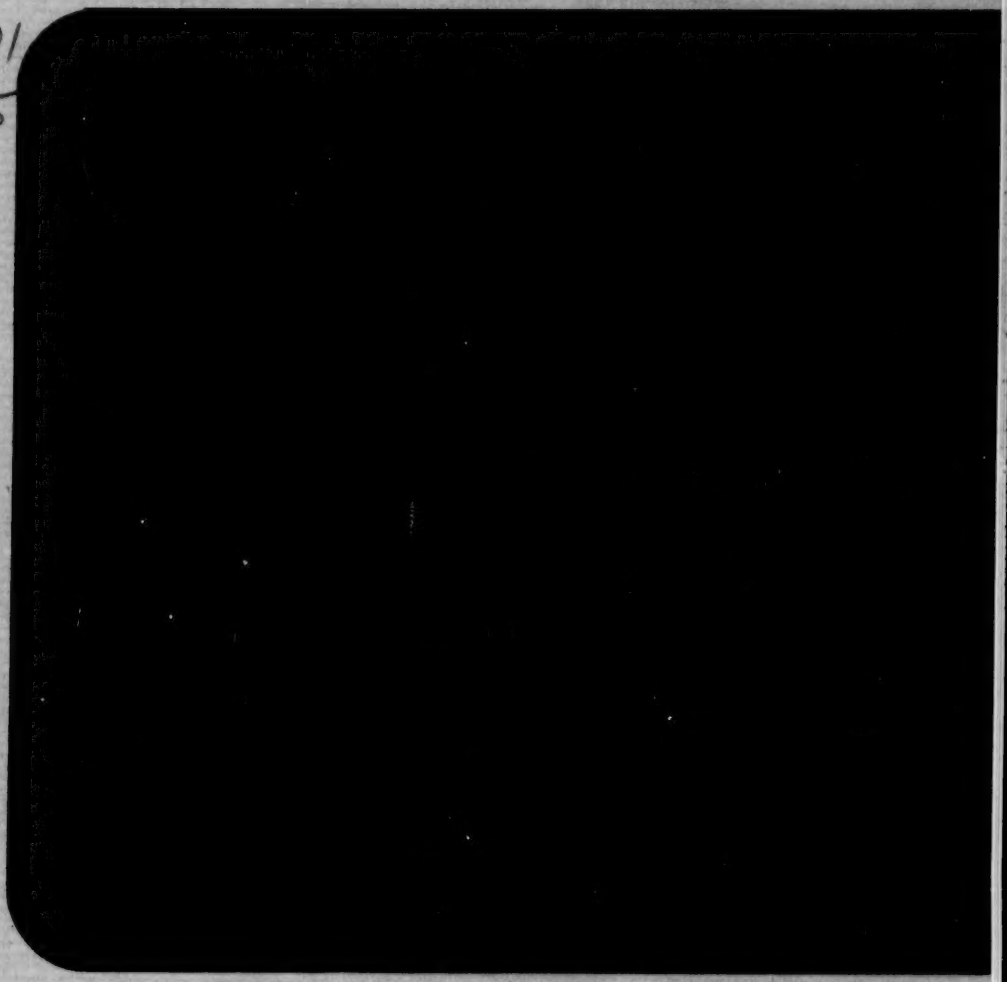

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• *A calm analysis of key factors*

Science, Technology, Education and the World Struggle

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Robert McKinney

THE Atlantic Community, born as NATO ten years ago in response to threats of armed aggression, has given us a practical demonstration of the value of cooperation, even if only in the restricted sense of military strength and the directly associated manufacture of arms for common defense of the Community. The imminence of fierce economic competition from our opponents now forces upon us re-examination of the Free World's industrial base in its broadest sense.

The subject is important to businessmen both as citizens and as the managers who influence the investment that translates technological progress into industrial achievement.

Foundations of Modern Economies

Industrial development is, in essence, technological development. Technology, in the sense of these paragraphs, is the application of scientific knowledge to the creation of industrial products. The growth potential of any economy is determined by its technologic base which, in turn, is determined by its scientific foundation. Factories can be built by importing machinery or borrowing blueprints and technicians. But sustained, long-range growth must well from each economy's own scientific and technical resources. In the face of the intensifying worldwide scientific revolution and the prospect of economic warfare for leadership of less-developed nations, the Atlantic Community as a military and political concept cannot flourish unless coupled with expansion of its scientific and technologic base.

Technology is the product of many factors—invention and design; applied research, product development and production engineering; raw material and energy technology; and operations analysis, or the rationalization of processes and methods in production and distribution.

Technology has its footings in basic scientific research of the type carried on in universities and in the laboratories of industry, government and some private institutions. Although performed without thought of profit, this research is the source of those skills, those discoveries and that greater understanding of the physical world without which technology could advance no further.

All this, in turn, is grounded on the bedrock of education; education in science and engi-

About the author—

A graduate of the University of Oklahoma (Phi Beta Kappa), Robert McKinney is editor and publisher of the Santa Fe *New Mexican*, oldest newspaper in the West. He served as Assistant Secretary of the Interior in 1951–52.

Termed by *Life* magazine "The world's best-informed layman on the peaceful uses of atomic energy," he served as first Permanent Representative of the United States to the International Atomic Energy Agency in 1957–58.

He authored the *McKinney Report* on the Impact of the Peaceful Uses of Atomic Energy for the Congressional Joint Committee in 1955–56, and has just been recalled to prepare for Congressional use a Review of the International Atomic Policies and Programs of the United States.

The present article is based on materials assembled by Mr. McKinney while serving as Rapporteur of the Sub-committee on Scientific and Technical Cooperation of the Atlantic Congress, held in London last June.

neering which recognizes that the humanities, too, are indispensable in the balanced discipline of accomplished minds.

Challenge from the East

Although the Atlantic Community has more than twice the population of the Soviet Union, the balance in numbers of science and engineering students is at present about equal. There is probably little difference in quality. Universities in countries belonging to the Organization for European Economic Cooperation, including Canada and the United States, are now turning out each year about 120,000 graduates in science and engineering. The number of engineers graduating in the United States has fallen substantially in the last six years, but the total numbers in the West are estimated to double in 10 to 15 years.

In the U.S.S.R. there are also about 120,000 graduates each year, with a rather greater number of technicians. The number of engineers graduated has doubled in six years and, so far as we can judge from the latest seven-year plan, the future doubling time is about 15 years. If we look at the standards of Soviet science and engineering training we see university courses of high quality. A recent visitor to the physics department of the University of Moscow reports the standard to be comparable, for example, with that of the Massachusetts Institute of Technology. The standard of achievement of fifth-year engineers was closely scrutinized by a visiting British mission two years ago and was reported to be very high, the mechanical design course being better than its counterpart in the United Kingdom. The Russians seem to have a natural gift for mechanical design, and their training has been based on pre-revolution traditions which are known to have been good.

From such information as we have about Soviet satellites, we judge their scientific strength to be small as compared with that of the U.S.S.R.

We have no reliable information about China, but from reports of Russian scientists who have visited there it would appear that, although Chinese science is at present weak in numbers, it is likely to build up rapidly. The Chinese renaissance will undoubtedly channel the historically recognized ability and discipline of Chinese minds—in immense numbers—into explosive exploitation of modern technology, science, and education. In the next 15 years—during which time the number of Soviet scientists and engineers is expected to double—mainland China will certainly have emerged as a serious competitor to the West in science and technology.

Western nations should take sober note, not only of the high financial rewards granted for scientific and technical attainments in communist countries, but also of the extraordinary social recognition.

The Student Problem

We in the West must increase the total number of our qualified scientists and engineers. We must discover and encourage truly exceptional talents, and arrange their courses so that they are not slowed down to the average pace. After graduation we must employ the minds of young scientists and engineers in the most efficient manner, and provide them with adequate facilities and institutional structures.

In many countries there are not enough scholarships to permit children of less-privileged families to attend college. In some countries the opportunities, even the incentives to enter qualified schools—with or without scholarships—are too few and restricted.

Certainly the young people of the Community should not leave elementary schools without acquaintance with the history of science and simple working introductions to the basic disciplines.

Some traditional attitudes and customs should be corrected. In a few countries, anti-intellectualism pictures scientists as odd persons outside the normal range of values, having neither the prestige nor economic status to inspire children to enter their profession. In other nations the basic scientist is admired, but the applied scientist and engineer have less recognition and opportunity. In some, aca-

demic appointments are so hedged with outmoded traditions that capable young people are discouraged from attempting academic careers.

The Teaching Problem

While responsibilities and skills have increased, staff-student ratios and academic salary levels in many Atlantic countries have suffered in the post-war period. Teaching standards at all levels must be raised, if Western educational institutions are to remain creative centers.

More flexibility is needed in the staff structure of European universities, especially more posts intermediate between professors and assistants.

Many universities are understaffed in their basic departments. This makes for unhealthy competition, so that politics often enter into appointments to important posts. Professorships should be on an economy of plenty rather than one of starvation.

Barriers of law and custom, which, in several Atlantic nations require faculty members to be citizens of the countries they teach in, should be removed.

The Facilities Problem

Universities in the Atlantic Community should plan accommodation and staff for much larger numbers of science and engineering students.

There is a point beyond which it is not wise to increase the size of existing educational centers. New universities and postgraduate centers must be built, and these in turn can become self-duplicating.

We need at least a few universities which would draw their faculties and student bodies broadly from the whole Atlantic Community. These pools of talented individuals, with similar backgrounds and association in their more formative years, would make possible closer international cooperation.

There would be advantages in establishing in Europe one or two centers of advanced study for brilliant postgraduate students, along the pattern of the Institute of Advanced Study at Princeton.

Scientists and Engineers: Supply vs. Demand

Earlier paragraphs have pointed out the large numbers of scientists and engineers being trained in communist countries. The conclusion would seem to be that the West, too, should step up sharply its education programs.

We must bear in mind, however, that it will not be in the rapidly expanding Russian and Chinese economies that our university graduates will be hunting jobs, but rather in our own more mature economies which are growing at more moderate rates. Bearing in mind that our defense procurement, if not tapering off, is at least stabilizing, we must ask on the one hand: Can our economies digest twice as many scientists and engineers in 10 to 15 years? Can such numbers be usefully employed within the present framework of industry, government and education in the West?

The West still leads in industrial production. But we must also ask on the other hand: If we fall behind in scientists and engineers, how long can we keep the lead?

Even more important than mere numbers is the question of improvement—significant improvement—in the quality of those we do graduate. A larger proportion of our university graduates must be encouraged to go on for postgraduate work in engineering as well as in the sciences. Happily, this trend seems already to be in evidence. But serious attention should now be given both to quality and to the relationship between the supply of and the demand for scientifically and technically trained young people.

The Soviet Effort in Science

An eminent British scientist who traveled recently in Russia reports that Soviet research institutes are not limited by shortage of money —only ideas. He reports that the Soviet Academy of Science employs 15,000 graduates—about six per cent of their scientific strength—and that their expenditure is about equal to that of the United States. To this should be added the expenditures of other academies and scientific institutions which employ four times as many graduates. He therefore concludes

that the total Soviet expenditure on basic research is likely to be at least twice that of the Atlantic Community.

The Russian effort is heavily weighted toward the physical and engineering sciences. Probably at the top of the secret list of directed research projects are hydrogen and atomic bombs, missiles, earth satellites and space travel. In controlled fusion work and nuclear physics, facilities of the U.S.S.R. are about equal to those of the West. In solid state and low temperature physics the Soviets have had flourishing schools for some time; in chemistry and biology they are well behind us; in electrical engineering they have had important achievements.

Increasing the Western Capability

A relatively small increase in the funds available to basic research could have tremendous impact on the future of Western technology. If there are no new basic discoveries, application in industry and defense will be limited to reworking the results of past discoveries.

As our activities increase, we need to find ways to organize research more effectively. Although doubling the number of our scientists may be a 15-year process, we can increase the efficiency of those we have by giving them adequate support and by removing barriers to free and rapid interchange. Basic research in the Atlantic Community must not be undernourished.

Duplication is not a liability in basic research, provided that the exchange of information is fast and complete enough to prevent useless repetition of work already done. Rather, there are distinct advantages in multiple approaches. That two scientists are working in the same field not only doubles the chance of solving a given problem, but also gives the possibility of two independent solutions which may be of unexpected importance. The emphasis of international activity with respect to pure science should not be on monolithic controls. Instead, the emphasis should be on ensuring that no obstructions are allowed to block the traditional spontaneous exchange between scientists.

International Cooperation in Education

Not all Atlantic countries have equal scientific or technologic capabilities. Those with fewer resources and less advanced in their development must have a greater relative increase simply to catch up. But, not only are these nations not able to catch up, in some cases the gap is actually widening. Fellowships for advanced studies abroad are not necessarily the answer. These nations need more elementary support, more textbooks and equipment.

On the opposite side of the picture, there are welcome signs of a new willingness to experiment—signs such as conversion courses to transmute liberal arts students to scientists: transfer courses to allow students to move from industrial and technical schools to universities; a few new universities; postgraduate refresher courses and advanced courses for graduates who have worked for a time in industry; and employment by industry for more scientists, including part-time faculty members.

Educational leaders from the entire Atlantic Community should meet periodically to consider what imaginative and far-reaching proposals can be evolved for international cooperation in education. They should make plans to enlarge and diversify the educational opportunities available to the youth of all nations; raise academic standards; improve educational techniques, methods and facilities to achieve the maximum development of our most important resource, namely, our young people.

Science and technology can bind more closely the ties of the Atlantic Community. Efforts to increase their effectiveness must begin with education. The challenge of growth and development in the second half of the 20th century places new demands on Western education at all levels in all countries.

What Industrialists Can Do

By having an excessive variety of types and operating characteristics for products destined to perform the same tasks, the Atlantic Community increases by a large factor the number of skilled persons necessary to achieve given objectives. When we consider the duplication of effort in design, the multiplicity of types, and the conflicts in specifications inescapable in the presently fragmented West it is apparent that greater uniformity would free much scarce and expensive technical talent.

Competition between sources and locations of manufacture and varieties of products is indispensable. But excessive duplication creates excessive costs, a luxury which we cannot afford in the face of growing Soviet competition. We need constant reappraisal of over-all industrial efficiency, from machine design on through the organization of manufacturing and distributing facilities and methods. Large economies from standardizing the design of industrial machinery and products are clearly possible. This does not mean absence of variety, but rather variety designed to meet specific recurring purposes. It means making maximum use of standard elements on the "erector set" principle—that is, the principle of standardized components serving a wide range of end-purposes.

There might be good dividends from Atlantic-wide competitions in the design of machine elements, standard components, and production techniques.

The present high variability of production rates makes us vulnerable to Soviet cost and price cutting, as does our high ratio of distribution expense to total costs. To get the greatest productivity from labor and plant facilities, we need stability and predictability in production rates, particularly in the capital goods industries. How to accomplish this within the framework of private enterprise without sacrificing the great human values of the Western economic system will be a real problem for our industrial managers and economists—but one they must not shun.

In fields not entirely unrelated there has be n some progress. For example, in some countries the past 30 years have seen the chaotic situation in the voltage and frequencies of localized power distribution come together, at great cost, for standardization. It can be done because it has been done.

Technologies We Lack

We must prepare our children to live with and by diverse technologies, many of which are yet neither named nor known. Among the major new technologies and rationales cutting across all others which we must create in the second half of the 20th century are these three:

First, a technology for the various phases of the inspection of disarmament, including the detection of nuclear weapons tests and surprise attacks.

Second, a rationale for the conversion of defense manufacturing facilities and manpower to peaceful products.

Third, a rationale for continuous, even if necessarily gradual, increases in living standards of less developed regions to levels more compatible with the technological possibilities of the period.

SUMMER INSTITUTE IN SURVEY RESEARCH TECHNIQUES

For the thirteenth consecutive year, the Survey Research Center of The University of Michigan will hold its annual summer institute in Survey Research Techniques.

This special program is designed to illustrate the theory and application of survey research to such fields as business and human relations, psychology and sociology, political behavior, public communication and influence, public health, economics, statistics, etc. Again this year a special workshop will be offered in the practical application of survey research methods to these individual fields.

The 1960 dates for the regular session are July 18 to August 13, with introductory courses offered from June 20 to July 16. For further information please write to the Survey Research Center, The University of Michigan, Ann Arbor, Michigan.

• *A comprehensive report on*

University Executive Development Programs

George W. Bricker, Jr.

MORE than a quarter of a century ago Alfred P. Sloan, the outstanding exponent of training for managers (in contrast to letting them emerge by themselves), put up the money to provide a 12-month intensive management training course at Massachusetts Institute of Technology for 13 men from industry to be selected by competitive examination. This program later became known as the Sloan Fellowship Program. It has been so successful that it now accommodates 45 men every year, and in 1958 Mr. Sloan provided for the establishment of a similar program at Stanford University. In 1945 Harvard formally inaugurated its Advanced Management Program, and ten years later there were in operation no less than 30 similar programs, including The University of Michigan's ably conducted Executive Development Program. In 1960 there will be at least 50 programs of this type operating in this country and Canada. Only one in ten has closed its doors. As the number of programs continues to increase, it is worthwhile to review what has been happening in this still-growing field of university-sponsored executive development programs.

About the author—

George W. Bricker, Jr., of Wilton, Connecticut, is a management counsellor specializing in top management planning, with particular emphasis on organization and the development of adequate executive reserves. For the last eight years he has made it his business to follow the growing field of "outside" executive development programs by repeated visits to the great majority of them. He is known personally to most of the program directors, and his views are widely sought by both educators and industrialists. His university degrees are: S.B. in Electrical Engineering, Massachusetts Institute of Technology; M.B.A., Harvard Business School; and LL.B., Northeastern University. He is a member of the Bar and has been engaged in management consulting for twenty-three years, including six years as Vice President for Organization Planning at Celanese Corporation of America.

Many Types of Programs

In the 15 years since the first AMP session at Harvard, much has been learned about making these programs effective. Most, if not all, of the program directors have been open-minded, have solicited criticism and suggestions from their participants, and have looked to the experience of other programs for ideas to help improve their own operations. Many changes in curriculum and conduct have been made, and certain trends are emerging as the programs come of age.

The potential value of these programs to upcoming executives is increasing year by year, PROVIDED—provided that managements sending men to participate in these programs select them carefully, pick a program appropriate to each man, make sure that the man himself wants to go, and see that he has some idea what he should expect at the program and what he should get from it.

Generalizations are difficult enough to draw even when related to a homogeneous group of activities. Many of the approximately two hundred university courses of all types in the field of management development have the broad objective of improving management skill; but their content is so diverse, their time

schedules are so varied, and their registration is so heterogeneous (often because the participants are their own sponsors), that any attempt to discuss them as a group would be useless. Among such offerings are night courses, summer courses where the registrant selects his own program from a list of electives, and even correspondence courses. There are also programs aimed at specific industrial groups—such as the public utilities, or the bankers—and others aimed at specific functions—such as sales management, or industrial engineering. No attempt will be made here to discuss the entire cross section of all these programs.

The activities I shall discuss can be defined generally as "In-residence programs, concerned with the broad aspects of management, whose participants are recruited from and sponsored by industry (and governmental agencies), and whose operation is under the auspices of recognized universities." This group embraces some 50 programs now operating in the United States and Canada.

The Growth of Programs

Leaving out of account the Sloan Fellowship Program at M.I.T. which held its first session in 1932 and which, although differing in a number of respects from the generally current concept of an executive development program, was nevertheless the forerunner of the present movement for training executives off the job, we find Harvard usually recognized as the initiator and leader of the executive development movement. Not only was Harvard first in the field (1945), but it has always accommodated the largest number of participants (160 twice a year), and has officially and unofficially assisted in starting and staffing many other university-sponsored programs in the United States, Canada and abroad.

In 1948, three years after Harvard, the University of Western Ontario at London, Ontario, began its program, relying at the start almost entirely on a faculty drawn from the Harvard Business School. This program runs for five weeks in the summer—in contrast to Harvard's 13 weeks in the spring and fall. It originally accommodated 95 participants, but has been expanded to 125 in recent years.

In 1949 the University of Pittsburgh began its program, which runs eight weeks twice a year, and accommodates 70 participants. In 1950 the University of Pennsylvania started a two-week program for 30 participants, and the Aspen Institute for Humanistic Studies conducted its first two-week program for 17 participants. In 1951 Northwestern University joined the group with a four-week program for about 40 participants which ran three sessions each summer for several years, and then changed to two sessions each summer.

The next year—1952—brought in five new programs (in addition to the American Management Association Management Course, which is not discussed here), including Columbia, Indiana, Stanford, Washington, and a program at Banff sponsored by the Universities of Alberta, British Columbia, Manitoba, and Saskatchewan. Of these, Banff accommodated 70; Columbia, 52 (twice each summer); Indiana, 45; Stanford, 50; and Washington, 40.

The following year—1953—witnessed 11 more programs, including a second (Middle Management) program at Harvard; and 1954 added another four, including that of The University of Michigan, which had been conducting a similar program for public utility executives since 1951. The year 1955 saw seven; 1956, four; 1957, five; 1958, four; and 1959, two. Several are projected for 1960 or later. Of the 37 started in 1953 or later, approximately three-quarters accommodated 20 to 30 and one-quarter accommodated from 40 to 60 participants.

Methods of Instruction

Each university has developed its own approach to instruction, despite the surface similarity between some of them. Harvard is, of course, the exponent of the case system approach, and uses that method of instruction to the practical exclusion of all other methods. In this it was followed by Western Ontario and several other programs. Practically every program does use cases to one extent or an-

other, and many use Harvard cases. There are variations in the way of using cases, however, for not all educators subscribe to the philosophy that the student must draw his own conclusions from the case discussion in preference to having the instructor point out the principles involved.

One thing in particular, which I observed as early as 1952, is that where the program work load is heaviest, the participants seem to get greater value for their efforts than in programs where the degree of preparation and participation is left entirely to the students themselves. The philosophy of some directors that, because they are mature men the participants should not be forced in any way to do something they would not do if left to themselves, does not seem, in practice, to provide the greatest benefits.

Participants in these executive development programs *are* mature men, and they are sent to these programs as part of their jobs. Attendance is not (or certainly should not be) a reward in the form of relaxation from the job. The men are there to learn something, and particularly to broaden their concept of the business enterprise in which they are engaged. If they are not properly prepared for participating in the discussion of a case, or a problem, or a philosophy of operation, as the situation may be, they not only deprive themselves of some value, but they also deprive other members of the program of their considered views. The others have a right to hear these views as one of the benefits they expect to derive from the program.

Small Group Discussion

There are numerous ways to stimulate constructive participation by all members of the program, without resorting to school-room tactics. Many program directors have become aware of the need for taking specific measures to assure widespread participation in class discussions, and many have adopted, over the last five years, some variation of the "small group discussion" technique. The need for this approach appeared first in the program with the largest classes. The method adopted was to assign men to small groups for discussion of the next day's assignments on the evening before. At first this was done on a suggested voluntary basis; but the following year it was put on a required basis, and has been maintained that way ever since, with daily changes in the make-up and chairmanship of the small groups.

Some variation of this procedure is now standard practice with about half of the programs, including many of those with total enrollments of only 20 to 30 men. In a number of cases a secretary is designated in addition to the chairman of each group, and it is his duty to report the opinion of his group to the entire class during discussion of the subject.

The principal value of the "small group discussion" lies in actively acquainting each member of the program with the basic facts of the subject to be discussed in class, regardless of whether he took the time to read the assigned material carefully. It is the social pressure of the group which "forces" him to participate, in order to preserve the "legitimacy" of his membership.

This technique obviously is of greater importance in the programs with large classes, where it is physically impossible for all members of the class to participate in the discussion at every class session, and where, consequently, non-participation and non-preparation can easily become a habit. In the smaller programs with only 20 to 30 members, the social pressure of the full class may be sufficient to "force" real participation by all members; but even in many of these programs the director has felt it desirable to use some form of "small group discussion" to assure preparation and stimulate class participation.

Subject Matter

The primary objectives of all these programs are, or should be, to broaden the viewpoint of the participant with respect to the inter-relation of policy and action decisions in the various departments of a business, to appreciate the differences in behavior and moti-

vation of individuals in both supervisory and subordinate positions, to recognize the impact of external forces on the operation of the business, and to develop a conceptual approach to the solution of business problems at both departmental and corporate levels.

To attain these objectives, the several programs take up and discuss a number of business situations (cases) which illustrate particular types of problems faced by the executive in real life, and/or present and discuss various philosophies of operation and their application to specific businesses.

Over the last five or six years there has been a trend toward closer integration of the subject matter in many programs. Some programs are still conducted in much the same manner as an undergraduate or graduate school of business, in which the curriculum consists of a specified number of subjects such as Marketing, Finance, Accounting Control, Labor Relations, etc. These are treated separately by individual instructors with little, if any, knowledge of what other instructors in the program are doing. Sometimes there is an attempt to pull the various subjects together in a "business policy" course.

At the other, and growing end of the scale are programs in which all types of business problems are woven into two or three main subjects such as Administrative Policy and Administrative Practice, or are dealt with in a logical sequence such as Setting Objectives, Planning, Organizing, Controlling. A limited number of programs deal primarily with the effects of the economic, legal, human, institutional, and technical environment on the job of the executive.

Relation of Faculty to Participants

Another distinction between program is in the area of association between the faculty and the participants. In some programs, especially certain ones which are held during the normal academic year and draw their instructing staff from members of the regular faculty who have primary responsibility for undergraduate or graduate courses, the participants rarely see the faculty members outside of class, except at periodic dinner meetings. On the other hand, even though held on campus during the academic year, the Harvard program uses a separate faculty whose sole responsibility during the entire year is conducting the fall and spring sessions of the Advanced Management Program.

Another policy, adopted in a number of the programs, is to have the faculty live in the same housing facility with the participants during the entire program, or at least for the length of their particular instruction periods.

Still another technique used at a small but growing number of programs is the practice of having some or all of the program faculty members sit in on every class session. Sometimes a case discussion will be led by two or more faculty members. The objective is twofold: to provide better integration of the entire subject matter of the program through complete knowledge by all faculty members of all discussion which takes place in the class; and to provide resource specialists who can supply information or opinions as questions arise in their particular areas of competence. Furthermore, the presence of the entire faculty in all classes obviates the possibility of the students' being left dangling between two apparently irreconcilable statements by two instructors.

These devices for bringing the faculty and participants closer together through continuing informal contact accelerate the learning cycle, and make the faculty and the program director more sensitive and responsive to the needs of the group.

Written Work

A movement toward introduction of written work into executive development programs seems to be developing. As early as 1946, in a program sponsored by a business association, the Graduate School of Credit and Financial Management, held each summer both at Dartmouth and at Stanford and involving attendance for two weeks for three successive summers, has required the participants to select a

subject for a thesis during the first summer; to submit outlines and conduct correspondence about the thesis with a faculty adviser during the time between the first and second summers; and to complete the thesis before reporting for the third summer session.

For several years two other programs have required preparation of a report on a current problem faced by each participant in his own company; and in 1959 one of the newer programs required the submission of a written report on an assigned problem each week of the program. In none of these cases is the report "graded," nor is the award of a certificate of completion of the program dependent on the quality of the reports submitted, but each man is given the benefit of a critique on the organization, presentation, and pertinence of his written material.

The reaction of the men in the last mentioned program was quite interesting. They did not know beforehand that they would be required to do any written work, and they felt some resentment about the extra work which faced them, over and above a rather heavy reading and "small discussion group" load. The over-all reaction was well summed up by one man who told me, "I don't like all the work it involves, but a fellow sure discovers that nothing makes him think things through like having to put them in writing. I know now that I need this exercise more than I realized, and it is very worthwhile!" The director of this program subsequently stated, "There is no doubt in my mind that we are only beginning to scratch the surface of the amount of work and accomplishment which the men who come to these programs are willing to put out. We are learning every year, and although I believe we have the toughest program of its kind in the country, we will be moving even further in that general direction next year."

Fads

In the United States we have a penchant for jumping on band wagons. Many times, such sudden, widespread espousing of a particular cause does damage to a basically sound concept by turning it into a fad; and when the fad is over, the real progress of the movement is set further back than the point it would have reached if the fad had not developed. There is probably no doubt that executive development has had an element of "fad" in it so far as some companies (and some universities) are concerned. But the basic movement seems to have emerged from any possible overlying cloud of fadism into a solid, worthwhile program for raising the sights and stimulating the thinking and perception of tomorrow's major executives.

Even in the program content, fads can develop. One of these, which has received quite a little attention from other writers, is the matter of possible over-emphasis on participative management and the "soft approach" to human relations. If this actually did occur, the emphasis would appear by now to be shifting in the direction of the need for positive action all along the line.

But there is one item which shows signs of being or becoming a real fad. This is "the game." Ever since the A.M.A. introduced the first session of the business game,[1] an increasing number of the universities have seemed to feel that they had to introduce some form of the business game into the curriculum of their executive development programs. In contrast, however, to the A.M.A. Management Course in which an entire week is devoted to the business simulation exercise, the university programs have found that at best they could allocate only a few afternoons or evenings to this exercise.

The entire subject is highly controversial, and many of the program directors feel that nothing of value can be gained from the inclusion of the game in their curricula. Those who do include it appear to do so for one or more of three reasons: there has been a lot of publicity about the game, and other programs

[1] The business game is a simulated decision-making exercise, using a computer to calculate the results flowing from the money-commitment decisions of competing teams, operating within a predetermined, but undisclosed, economic formula, so that years of business activity can be compressed into hours.

are using it; there has been so much talk about the game that program participants should have an opportunity to see what it is; the game provides a means for demonstrating the interaction of various decisions by departmental managers and competitors.

Evaluation of "The Game"

My own observations on "the game" can be summed up as follows: The explanation of how the game operates *does* illustrate the inter-relation of the various facets of business decision-making to the ultimate profit result. I question, however, whether use of the game is necessary to make this point.

The nature of the game presupposes that certain arbitrary results will flow from specific decisions by the several competing teams. For instance, it assumes that the mere allocation of more money (say for research or advertising) will *ipso facto* produce favorable (although possibly delayed) results for the company. We all know that, in practice, it is *how* a company spends money that is far more important than the mere amount it spends. This nuance is of necessity precluded from the game.

When played for a number of cycles in sequence, the urge to "beat the game" becomes paramount in the minds of the players. In other words, it is simply a gold-plated game of "Monopoly."

This is not to say that no value will flow from the use of business games in the detailed study of the effect of various decisions under an assumed relationship between several factors in a real business situation. I am merely expressing doubt concerning the practical value of such a short exposure to a purely hypothetical game situation.

Many of the program directors have decided against use of "the game" generally on the grounds just cited. Insofar as showing the participants what "the game" is, they point out that there are many opportunities to see a demonstration of the technique at offices of the computer manufacturers.

One program director, however, is contemplating use of "the game" in a somewhat different manner. He is considering playing it one cycle at a time, several days apart, but tied directly into a multi-part case problem in the regular curriculum of the program. He would have the class analyze the results of each cycle to study the interaction of the several teams' decisions in producing the results which the computer grinds out. In this manner he expects to get full value from showing the effect of interacting forces without putting anyone into a "beat the game" frame of mind.

Continuing Education

In the interest of getting the benefits of putting new ideas to work, and then coming back for further study, some programs are divided between two or three years, the participant spending two or three weeks in residence each summer. The University of North Carolina has a unique program schedule which begins in the fall with a week in residence, then continues for two days every other week-end through the fall and winter, and finishes with another full week in residence in the spring.

Several programs hold review or refresher meetings each year which are open to all graduates of the program. One program has even gone so far as to encourage and help its graduates to organize evening courses in their own communities to provide management training for younger executives who do not have the opportunity to attend the regular programs.

All programs attempt to stimulate the participants to do further reading and study on their own, and a number supply libraries of 15 to 20 books for such use.

Living Conditions and Recreation

Among the non-curriculum facets of the various programs a few items are worthy of mention. Living accommodations vary, but even the least elegant are reasonably satisfactory. At first a number of program directors took the attitude that by doubling up in dormitories, the participants would benefit from closer association with men of diverse interests.

This attitude seems to be on the wane, and in most cases now, single bedrooms are the rule. Joint study rooms for two or more men are common.

The feeling that wives should not accompany their husbands is quite universal. Only two programs actually encourage the participants to bring their wives. In one of these cases wives are invited to audit the discussion sessions, and in the other, there are a few special sessions for the wives. However, the prevailing opinion is that one of the greatest values in the programs is the off-hour discussion of program material and other mutual interests between participants of diverse industrial backgrounds. The presence of wives can only diminish this interchange of experience and views.

Although recreation is still recognized as important, there appears to be less emphasis on the facilities available than was evident earlier in the history of these programs, and there are several in which very little in the way of athletic recreational opportunities is available. One program brochure says quite bluntly, "The nature of the program, and the pace at which it moves, sets an environment of work rather than one of play."

Conclusion

Taking an overview of the entire field of university-sponsored executive development programs, current indications are that

1. Faculty and participants are taking an increasingly serious view of executive development programs as a part of the management training process.

2. There is increasing attention to attacking the subject matter of the program from the over-all corporate viewpoint in contrast to studying separately the individual functions of management.

3. The pace of the programs, and the amount of work required of participants, is growing year by year. This will include greater use of required written work.

4. Managements should be alert to the need for properly matching their nominees to programs suited for each individual; and should make sure that each nominee actually wants to attend the program, and is fully aware of what he is expected to get out of it.

SCIENTIFIC RESEARCH AND DEVELOPMENT

Scientific and industrial research as a dynamic force in our economic and industrial development is the subject for a selected list of books and articles in the latest issue of *Business and Technology Sources*, Bulletin of the Business and Technology Department of the Cleveland Public Library. Single copy, 25 cents.

Subjects covered include: research and development, opportunities for small business firms to participate in research projects, planning and management, personnel and manpower, laboratory design, research and patents, literature searching and documentation, report writing, and sources for translations of foreign scientific literature.

Government participation and Congressional action in support of research and development, and basic information on the present status and long-range planning of research in the United States and other countries are brought out under Government and Research, and Congressional Hearings.

Also listed are directories of research laboratories, scientific associations and industries engaged in research, and a selection of the periodicals devoted to the general phases of scientific and industrial research and development.

• *An examination of an important management term*

Control: A Brief Excursion on the Meaning of a Word

E. S. L. Goodwin

EVERYBODY, or almost everybody, agrees that *managing* consists of, is divided into, has as its elements *planning, organizing, directing,* and *controlling*. There are those who will wish to add *coordinating,* following the lead of M. Henri Fayol, the French industrialist and management authority, who first (in 1916) analyzed management as a separate skill, universal to all human enterprise. There are some who will plug *staffing* (the assembling of managerial personnel) as a fifth member of the list, in answer to whom orthodox Fayolians will point out that staffing is obviously nothing but an aspect of organizing; and there are other departures—but these need not divert us now. For our present purpose we may regard planning, organizing, directing, and controlling as at least outlining the usually accepted analysis (basically Fayolian) of what a manager does when he manages.

There is general agreement that *planning* is making decisions about where you want to go and how you are going to try to get there; that *organizing* is erecting and tending the apparatus, material and social, that will carry you on the trip; that *directing* is steering the vehicle as the route unrolls—that is, telling your crew what to do along the way (coordinating can be fitted in here somewhere if anyone insists on it); and that *controlling* is - - - that controlling is what?

No Clear Meaning

There is no general agreement on the meaning of control and, oddly, no clean-cut disagreement—merely fuzziness about the meaning, a condition of mild schizosemantia, most of whose victims seem happily unaware of their malady.

Control, most (but by no means all) agree, *starts with* observation and measuring—comparing what has just happened or is happening with what was supposed to have happened, or what had been planned to happen, or what used to happen. If we go only this far and no farther, we have the tidy and uncontroversial situation that control is a job made to order for staff—the job of checking-up, inspecting, keeping track; something which does not infringe on the line man's prerogative of directing and commanding; something which is, in fact, so inherently *non*-infringing[1] and at the same time so helpful to all concerned that it looms as a very large part of the raison d'être of staff—maybe the largest part.

About the Author—

E. S. L. Goodwin, Captain, U.S. Navy (retired), is Lecturer in Industrial Management in this School, and teaches courses in Principles of Organization.

[1] Although some line executives may be inclined to suggest that having someone looking over one's shoulder is not without at least a faint odor of infringement.

But there are management theorists who do not wish to leave it at that. They assert that control necessarily involves *doing something about* any deviations from plan that observation and measurement reveal.[2] And therefrom flows much confusion. Those who swallow this view whole tend to reject outright the idea of *any* "control" by staff—they are likely, typically and for example, to hold that cost *accounting* is a staff job, but that cost *control* is exclusively the job of the line. This view, it will be noted, in effect expels (unwittingly and contrary to actual desire, I suspect) the information-gathering element from the sphere of "control."

Confused Usage

A large group of the confused is composed of those who, in writing about management, use the word "control" in two different senses, without indicating their shifts in usage, and perhaps without being aware of them. The manifestations of this foible take two forms. The members of one subgroup besprinkle their paragraphs with occurrences of the word used, apparently unconsciously, in the commonly understood English sense (in which it is practically synonymous with "direction," or even with the all-inclusive "management" itself); and yet, in these very paragraphs, with no show of awareness of the anomaly which they are spawning, analyze managing into four (or more) elements of which one is controlling and another is directing. The second subgroup quote M. Fayol with apparent approval and with every evidence of eager affiliation; then, in their own expositions, with what *must* be misunderstanding rather than the perversity which it shouts, blithely give "control" meanings which are utterly incompatible with M. Fayol's. Some of the writing involved is reminiscent of passages from metaphysics or theology—it is doubtless extremely confusing to the new student of management theory.

Resolving the Confusion

Can there be a clean-cut resolution of this? Yes, if we are willing to be logical and consistent. No one will deny that the information-getting element of control must be *followed by* action if control is to be of any use at all. So must thinking. So must planning. But this does not make action a part of thinking nor execution a part of planning. And, once we have agreed, in the interest of clarifying what managing is and entails, to analyze it into four component parts, why must we muddy our analysis by maintaining that one of these parts in some obscure way includes all of the other three? Yet this is what the control-means-action adherents, abetted by their less dogmatic but more careless fellow-errants, are in fact maintaining.

Let us suppose that a manager's information shows him that everything is going as he wishes, exactly according to orders and plans. What does he do? Nothing, of course (except possibly pinch himself to see if he is awake). So which of the things that he has done (if any) can be categorized as "controlling"? He has done nothing but gather and interpret information; so that, *if* he has controlled *at all*, it must have been in the act of gathering and interpreting information.

Or suppose that his information tells him that things are *not* going well, or as planned, or as hoped; and that he must take corrective action. What action does he take? There are just three categories of action that he *can* take, and these are (1) to modify his plan, (2) to revise his organization, and (3) to issue some new orders to his people. The first of these looks suspiciously like planning, the second is indistinguishable from organizing, the third is indisputably directing. What then, of the various things that he has done or might do, remains to be labelled "controlling"? Clearly, nothing but the original gathering and interpreting of information.

Wait a minute! There *is* a fourth thing that he can have done, and that is to dig up more information or reinterpret and restudy some that he already has—in this sense one of the

[2] As an example, see Arnold F. Emch, "Control Means Action," *Harvard Business Review*, July-August 1954.

actions that results from control *can* be *more controlling*. But in any case the manager's controlling has been composed *solely* of the getting and treatment of *information*—nothing whatever more. What he does ultimately *in the light of the information and aside from his treatment of it* is *always* pursuant to some other aspect of managing, except in that special case where it loops back to more information-getting first.

What about the case where information and decision-making are made integral in one procedure, as in automatic line-item reorder at a specified inventory level—is *this* a case where control literally *means and includes* action? It is not. It is a case where a directing element has been tacked on to the end of a controlling element—two different things are still being done, despite the automaticity of their sequence.

How have we got ourselves enmeshed in thinking otherwise? Let us do a bit of etymological research.

Etymology of "Control"

We start with the unabridged "Merriam-Webster," Second Edition, which tells us that the verb "to control" entered the language from the French "contrôler," and gives the following current meanings:

1. Originally to check by a duplicate register (contre rôle in the French; counter roll in English) or account; now, to check or regulate (expenditures, payments, etc.).

2. To check, test, or verify by counter or parallel evidence or experiments; to verify by comparison or research; as to control a statement or experiment.

3. To exercise restraining or directing influence over; to dominate; regulate; hence, to hold from action, to curb; to subject.

Synonyms—restrain, rule, govern, guide, direct, check, subdue.

Meaning number one (except for that contaminating "regulate") comes very close to the *management* sense of the word. Meaning number two is even closer, although it seems to be slanted toward the limited application in scientific experimentation. Meaning number three, which makes "control" and "direct" synonyms (and note that the entire list of synonyms, with the possible exception of "check," is associated with this third meaning), is quite incompatible with an analysis in which "control" and "direct" both appear as presumably different parts of one whole.

And yet meaning number three is the dominant English meaning! It is the meaning intended by engineers when they use the word. It is the sense usual in aeronautics. It is what we have in mind when we speak of a baseball pitcher's performance or a parent's influence over his offspring. The military term "fire-control" means more than merely the spotting and reporting of fall of shot; it really means "fire-direction." If asked which of the two, the steering wheel or the speedometer, is a control mechanism in our car, most of us will unhesitatingly pick the wheel. Yet, *in the management sense,* the *only* correct answer is the speedometer.

Let us continue digging. The Oxford English Dictionary tells us that the word came over from the French in 1475 with the sole meaning "to check or verify." The restrain-prevent-regulate-dominate-direct senses (the "action" senses) appeared later, apparently as a spontaneous addition, *unilaterally English* (the Oxford dates the first occurrence in these senses at 1495). "Well, what difference does that make?" you may protest; "Doesn't usage properly change the meanings of words? Language is not a frozen thing. Dictionaries don't govern language—language governs dictionaries. Control means to English-speaking people what it has *come* to mean to them, regardless of what the French originally meant by it or now mean by it. We thank them for the word, of course; but they can't dictate what we shall do with it now that we have it."

All right. Granted. But "control" *in the management sense* did not enter English from the French "contrôler" in 1475; it entered English from the French "contrôler" in 1929. It made that second trip across the Strait of Dover because, in that year, a Mr. J. A.

Coubrough, an Englishman, mistranslated "contrôler" as "control," and the result was printed by the International Institute for the Scientific Organization of Work at Geneva in the first published English version of M. Henri Fayol's *Administration Industrielle et Générale* which, originally presented in French in 1916 by the Society of the Mineral Industry of France, had introduced the prévoir-organiser-commander-coordoner-contrôler[3] list into management theory.

"Control" a Mistranslation

I say "mistranslated" because the word used by Mr. Coubrough to render "contrôler" had come, since 1475, to mean something altogether different from "contrôler." What M. Fayol meant by "contrôler" may be found in the unabridged Pierre Larousse where (take my brief word for it; the Larousse devotes some 250 to the subject) the dominant meaning is checking, comparing, verifying; and the idea of directing, restraining, using overriding power *does not appear at all.*[4]

Those who have ridden in the Paris Métro may recall a sign posted in the cars which says:

"Save your ticket.

It might be checked (contrôlé) en route."

Fayol's Original Text

That M. Fayol meant his "contrôler" in this sense is perhaps adequately attested by the fact that he was a Frenchman writing in French. But we can further clinch the matter by quoting several of his own passages from the original text of *Administration Industrielle et Générale*[5] (I translate, using "c——" for every occurrence of "contrôler" or its inflections or the corresponding noun or adjective. The reader may like to read "checking" or "check-up" into these places. All emphases are supplied.):

"In an enterprise, c—— consists of verifying whether[6] everything happens according to the program adopted, the orders given, and the principles established. It has as its aim *to point out* faults and errors *so that they can be* rectified and their recurrence prevented."[7]

"Each department exercises surveillance over its own people, and top authority keeps its eye on everything. But when certain c—— operations become too numerous or too complex or too extended to be done by the regular supervisors of the various (line) departments,

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[3] Meaning (forecast and) plan-organize-direct (or command)-coordinate-?????

[4] By "unabridged Pierre Larousse" I am referring to the monumental *Grand Dictionnaire Universel du XIX Siècle,* published in France between 1865 and 1876, with Supplements in 1878 and 1888. A second great Larousse, the *Nouveau Larousse Illustré,* came out between 1898 and 1904, with a Supplement in 1907. Under "contrôler" it adds nothing significant to the material in the earlier version. The name Larousse means much more to the French, in its implications of authority, than the name Webster means to Americans; and, since M. Fayol was born in 1841 and died in 1925, I think that we can accept these two Larousses as authoritative guides to his mother tongue as he knew and used it.

A third great Larousse, the *Larousse du XX Siècle,* publication of which began in 1928, gives the same meanings for "contrôler" as do the two earlier ones, but with the addition, at the end, of the following (for our purpose) extremely significant and illuminating "Remark" or note (I translate):

"There is sometimes given to this verb the sense of 'be master of,' 'govern,' 'direct': thus—'The territory controlled by the Marshal Chang Tso Lin.' This is an anglicism."

[5] Since 1925, published by S. R. L. Dunod, Publishers, Paris.

[6] The French here is ". . . consiste à vérifier si tout se passe . . . .". Mr. Coubrough's 1929 translation renders this ". . . . consists of seeing that everything is being carried out . . . .". The English idiom "to see that" so-and-so happens carries the clear implication *to cause it to come out* that so-and-so *shall* happen; in other words, to *make* it happen. The French phrase "vérifier si" does *not* say this. Another black mark for Mr. Coubrough! A later translator, Constance Storrs, who is responsible for the Pitmans' version of the same text issued in 1949, avoids this pitfall by using "verifying whether," and I follow her lead in my own rendering.

[7] Although Mrs. Storrs avoids the "see that" trap (see last footnote), she gets drawn into the anglicization cited by the Larousse in her treatment of this next sentence. The French is: "Il a pour but de signaler les fautes et les erreurs *afin qu'on puisse* les réparer et en éviter le retour." Mrs. Storrs renders this: "It has for object to point out weaknesses and errors *in order to* rectify them and prevent recurrence" — a version which will be seen to be either bad translation or bad English, or possibly a little of both.

recourse must be had to special functionaries called controllers or inspectors."[8]

"For c—— to be effective it must be done sufficiently promptly, and it must be *followed up* by sanctions. It is obvious that, if the results of a c—— procedure, even a very good one, arrive too late to be of use, the c—— procedure will have been futile. It is no less clear that c—— is useless if the practical conclusions which flow from it are obstinately ignored."

"Well done, c—— is a valuable auxiliary of top management. It can *give it certain necessary information* which the hierarchic chain is sometimes incapable of furnishing. . . . . Good c—— insures against those troublesome surprises which might degenerate into catastrophes."

Perhaps an even better statement by M. Fayol of what he meant by "contrôler" is to be found in an address of his, entitled "The Administrative Theory in the State," before the Second International Congress of Administrative Science at Brussels, September 13, 1923—just two years before his death (I retain the convention of recording the controversial word as "c——"):[9]

"To prepare the operations is to *plan* and *organize;* to see that[1] they are carried out is to *command* and *coordinate;* to watch the results is to c——."

"C—— is the examination of results. . . . . C—— compares, discusses, and criticises; it tends to stimulate planning, to simplify and strengthen organization, to increase the efficiency of command and to facilitate coordination."

The duplicate transformations of "contrôler" into English, 450 years apart, remind me of a gimmick in some science-fiction plots in which the hero, time-traveling into the future, encounters his older and of course altered self. The confusion to all concerned is quite similar in both situations.[2]

Whose Fault?

M. Fayol might have saved us all this by writing in English; but we can hardly take him to task for not having done so. Mr. Coubrough might have served us better by translating "contrôler" as "measure," or "compare," or "check-up," or "verify," or "inspect" . . . his little sin in not having done so seems to have misguided a large segment of a generation of English-speaking management theorists.[3] Finally, I suggest that we might relieve Mr. Coubrough of *some* of the blame and shift it to the shoulders of the misguided segment itself, on the ground that they could have avoided being misguided if they had given somewhat more attention to testing their own internal consistency—that is to say, *controlling* it.[4]

The cure? As the veterinary doctor said when called into the case of the ailing but still ebullient gorilla, the *prescription* is easy; it's the *administration* of it that poses problems.

The prescription in the case of "control" is, of course, to drop the word from membership in the list of the elements of managing and substitute something else. Moorehead Wright of General Electric likes "measurement." Luther Gulick uses "reporting" (presumably

(continued on page 28)

[5] In interesting contrast with this passage is a section in Mr. Emch's article, previously cited, whose sub-title and theme is "Controllers don't control."

[9] Translation by Sarah Greer, published in *Papers on the Science of Administration,* edited by Luther Gulick and Lyndall Urwick; Institute of Public Administration, Columbia University, New York, 1937.

[1] Note "see that" here in its proper role. Contrast with subject matter of footnote 6.

[2] Professor Albert H. Marckwardt of the English Department at the University of Michigan assures me that this disturbing event is far more common in philology than it is (as far as we know) in tourism.

[3] And a scattering of Controllers (which is, I suggest, what was bothering Mr. Emch, previously cited).

[4] My quarrel is not with those who use the word simply in the anglicized sense without pretending to combine this usage with a Fayolian or quasi-Fayolian treatment — it is rather with those who use the Fayolian analysis without understanding Fayol. In fairness to Mr. Emch, previously cited, I should state that he does not mention Fayol, shows no evidence of familiarity with Fayol's analysis, and makes no comparable one of his own.

• *It's a ten-billion-dollar affair and still growing!*

Sports: A Growth Industry

Lawrence Murdoch

SPORTS are booming all over America. True, we've long been a sports-conscious country but the present craze is unprecedented in many ways. From watching and discussing, emphasis on sports has recently shifted to active participation. Attendance at sporting events has fallen off as spectators have become doers. Yesterday's onlooker is today's outboarder. Bleacher fans are now bowling fanatics. To many, their own golf scores have become more important than Mickey Mantle's batting average.

Participation sports are frequently family affairs. No longer are such activities relegated to an unshaven male world of cigar smoke and indelicate language. Today, wives and children go along with their men folk to enjoy boating, fishing, or camping.

Sportsmen themselves have changed. Once the term was applied only to the likes of polo players, racing yachtsmen, and big-game hunters—real playboys, all. Now this type is almost extinct except in the cigarette ads. Modern sportsmen come from all walks of life and all income classes. Butchers, bakers, and candlestick makers have forsaken tavern and television for the week-end world of participation sport.

Perhaps the most surprising thing of all about the army of spare time sportsmen (and sportswomen) is its size. Just look at the roll call: boating, 37 million participants; fishing, 30 million; bowling, 22 million; hunting, 20 million—and the ranks are growing every day.

The new sportsmen match their enthusiasm with money. Their spending has created boomlets for many of the industries that cater to their needs. Although the figures are sketchy, it's likely that total outlays for participation sports now top $10 billion a year. By comparison, this sum is more than half of all expenditures for education.

The present boom really began to gain momentum around 1954 or 1955. It is, however, a culmination of developments that took place long before that.

Out of a Stark Background

The devil finds work for idle hands. This adage is a reminder of our puritanical past when leisure was almost nonexistent and amusement was considered sinful. Such sporting activity as existed in early America was confined largely to displays of efficiency in those skills essential to the rugged frontier life—shooting, riding, log rolling, and cornhusking bees.

It was not until the late 19th century that sport for sport's sake became important in America. John L. Sullivan was perhaps the first sports figure to achieve national prominence and he didn't start fighting until about 1880. By 1900 America was taking a lively interest in sports, particularly baseball and intercollegiate contests. In the decade follow-

About the author—

A graduate of the University of Pennsylvania, Lawrence Murdoch is Associate Economist of the Federal Reserve Bank of Philadelphia and also is a lecturer at Temple University. This article was adapted by the author for the *Michigan Business Review* from his article "Much Ado About Doing" which appeared in the July 1959 issue of the Bank's *Business Review*.

ing World War I—often called the Golden Age of sports—enthusiasm reached fever pitch. The public worshipped such heroes as Babe Ruth, Red Grange, Bobby Jones, Jack Dempsey, Bill Tilden, and others. Yet, as late as 1929, participation in sports was predominantly for skilled athletes. The average man was still an observer, although an avid one.

In the 1930s increasing numbers of Americans came off the sidelines and began participating themselves. There were two main reasons. The depression gave them plenty of time to kill and the Government provided many new facilities. According to one authority, the WPA constructed 10,000 tennis courts, 3,000 athletic fields, 250 golf courses, numerous ski trails, handball courts, etc.

World War II gave sports participation another strong push. The Army and Navy launched one of the most extensive sports programs ever known—partly to relieve boredom but more to promote physical fitness. The latter is an old idea dating back to ancient Greece when warriors developed their strength in athletic contests. And wasn't it the Duke of Wellington who said the Battle of Waterloo was won on the playing fields of Eton? Sports programs, furthermore, were not restricted to the military during World War II. Similar activities also were organized for war workers, and for much the same reasons. It is ironic that something as grimly serious as war taught millions to play, but that's about what happened.

Although the depression and the subsequent war sowed the seeds of mass participation in sports, it took much more to nurture the seeds and make them grow into something the size of the present boom. The total number of participants is now almost double what it was in 1946.

What Gets 'Em Up and Out

The distribution of leisure has been completely about-faced in a few decades. Now, due to 8-hour days, 5-day weeks, and 50-week years the working class is really the leisure class. On the other hand, top executives with their evening conferences and nation-spanning trips are putting in longer hours than ever. Since workingmen vastly outnumber executives, this reversal means many million more leisure hours for our population as a whole. There are many reasons for the spread of leisure. It's sufficient here to mention just two—the tremendous growth in industrial productivity and the increased bargaining strength of unions. What it means is more time for pleasure, more time for sports.

Our new leisure class is exceptionally well-heeled. Real incomes have risen approximately 40 per cent since World War II. More important, almost everybody has been getting some of the extra "gravy." In 1958 dollars, 64 per cent of all households now earn more than $4,000 a year compared to about 50 per cent in 1946. Discretionary income, the money left over after necessities like food, clothing, and shelter have been bought, is now estimated at $103 billion—up 42 per cent since 1946.

Thus, millions more Americans have the two vital ingredients to become sportsmen—time and money. But why do so many people choose participation sports over competing leisure activities? Here are some of the reasons.

Now that he's a member of a leisure class, the typical American is trying to live up to his new status. He likes to pursue diversions that have always been associated with the upper crust. Sports are a prime example, for until recently only the wealthy few could squander time on such nonproductive pursuits. It's interesting to note that many of the most popular and fastest growing sports of today are those closely identified with the millionaires of yesteryear—boating, hunting, skiing, and golf.

The New Spending Pattern

During the first postwar decade, consumers splurged on durable goods such as automobiles and appliances. Doing without during the depression and the war made these items seem necessary, and prosperity made their purchase possible. Around 1956, however, spending patterns shifted. Durable goods began taking a smaller slice of the consumer's dollar as short-

age-bred desires gave way to replacement demand.

With ownership of material goods at an all-time high, consumer spending has slanted in other directions—toward the less material, "life enriching" industries. Culture has become a "hot" commodity; so have travel and many services. Sports, too, are important beneficiaries of this dollar quest for the better life, 1959 style.

The previous heavy spending on durables, however, is giving sports a belated boost. The appliances already acquired are saving mother hours of household drudgery—hours she may devote to sports with her family. Even TV is said to be sparking sports participation in a negative way. After years of public addiction, a reaction may be setting in. Sportologists claim that TV is now driving many people outdoors. "We've sat long enough in front of this thing—now, let's get out and do something."

The great postwar increase in automobile ownership (100 per cent since 1946) contributes to sports participation in a more positive way. Automobiles give people mobility to pursue sports far afield. More than a million boating bugs, for example, own trailers and commute their crafts to the water on week ends.

Energy and Fulfillment

Developments in factories and offices have turned many people to sports. The ever-expanding use of machinery, to which workers owe much of their extra leisure, also has lightened the on-the-job load. People aren't so tired after a day's work and have energy left for active sports.

Giant corporations often tend to submerge the individual employee. His gains in income and leisure may be offset by losses in satisfaction and creativeness. Sports help compensate for these job frustrations. Riveter and ribbon clerk feel important again in the outdoors. There they can temporarily escape civilization and find a measure of fulfillment whether they're chasing par or partridge. Or maybe they take to the water where, as *Time* magazine puts it, "Life loses its complexity; it's just you and the sea and suddenly north is important to you."

Company-sponsored sports programs have grown rapidly since World War II. It is estimated that 25,000 firms now spend a total of $1 billion a year on employee recreation and much of this money goes for sports.

Company teams are nothing new but the recent emphasis has shifted from the "varsity" to intramural sports available to all employees. The most popular are bowling, golf (a hundred firms own their own courses), softball, and basketball. During the lunch break, table tennis and horseshoe pitching are leaders. Undoubtedly more than a few workers who learn the rudiments of a sport "on the house" pursue it further at their own expense.

The changing structure of our population has increased the number of sports participants. There are more grandsons and grandfathers now than ever before. Both groups make good sportsmen, for each has time and enthusiasm. Therapy, too, is a factor. One wonders how many have become sportsmen on doctors' orders and how many others have anticipated these orders. The publicity given President Eisenhower's golf undoubtedly has had an influence in this area.

Then there's the effect of improved sporting facilities and new materials such as Fiberglass for boats. Expanded sports programs in school and college have created many participants who continue after graduation.

Box Score of a Boom

Add up the number of participants in the following table. You get a total of 286 million—110 million more than the entire population of the United States. Obviously, many sportsmen are multi-sport enthusiasts. It's reasonable. Many sports are related, for example, boating, fishing, water skiing, and skin diving—and the transition is natural. Then, too, there is a high degree of seasonality in sports and it often takes several types to see the sportsman through a year.

The spending column is made up largely of

information received from various correspondents, a significant number of whom are concerned with promoting sports in general or some sport in particular. In some cases their estimates may be overly enthusiastic or based on rather meager statistics.

Notice how the spending figures are marked with footnotes indicating that they are not strictly comparable. In the case of fishing, hunting, golf, and skiing, related spending is added in, while in some other sports the cost of equipment only is covered. Furthermore, the list is incomplete—spending information for many important sports is not collected—and some figures may be overlapping. The fishing total, for instance, may include some expenses also covered in boating. It's a case of making do with what is available.

THE SPORTING ROLL CALL AND BANK ROLL

All figures are for the year 1958

	No. of Participants* (Millions)	Estimated Amount Spent (Millions $)
Boating	37	$2,085
Swimming	33	600[a]
Fishing	30	2,600[b]
Bicycling	26	180[c]
Roller Skating	25	350
Bowling	22	415
Hunting	20	1,000[b]
Baseball and softball	15	49[c]
Pool and billiards	10	150
Golf	6	750
Tennis	7	9[c]
Skiing	3	120
9 other sports	52	Not available

Sources: The Athletic Institute, The American Institute of Public Opinion, various sporting associations, and others.

* A participant is anyone who engages in a sport at least once or twice during the year.

[a] Total cost of pool construction

[b] Includes cost of trip

[c] Cost of equipment only, as estimated by Richard E. Snyder

Laced with limitations though they are, the figures more than hint at the impressive amounts of money devoted to participation sports. The sums shown add up to $8,308,000,000; and this is just money spent by consumers. Fill in figures for sports which have been omitted, add the cost of building facilities like bowling alleys and golf courses, consider governmental outlays, and it's a good bet that the nation spent over $10 billion on participation sports in 1958. And this allows for some enthusiastic estimating and double counting.

Behind the Beanstalk Growth

Sporting goods' manufacturers obviously are profiting by the current popularity of sports. So are the proprietors of facilities such as bowling alleys and marinas, and the owners of a vast array of service establishments. Motels, restaurants, and gas stations in certain areas derive much of their income from sportsmen on the move.

Banks, too, have a stake in sports. Financing pleasure boats is proving a choice plum, according to many credit men with experience in the field. The market is big—about 56 per cent of all outboard boats sold are paid for on the installment plan—and the loans are relatively safe. Swimming pools are another opportunity for banks. The average residential pool costs $4,200; and 40 per cent of them are sold on time.

All levels of government are involved in sports. Governments provide a wide range of facilities, including national parks and forests, state parks, game preserves, municipal pools, and playgrounds. It is estimated that they spend about $1 billion a year on recreation, and a major part of it goes for sporting facilities.

The ever-increasing number of sports participants are putting additional pressure on already pinched public treasuries. Sportsmen add their "gimmies" to the cacophony of cries for governmental aid—"We want better camping grounds, more trout stocking, and a nice road to the lake." There are enough sportsmen now to make their voices heard, loud and clear,

and they're likely to be getting more of what they want. The requests will be costly but they could yield important collateral advantages. The conservation of forests and streams, undertaken at the insistence of hunters and fishermen, also benefits farmers and industry. In metropolitan areas, sportsmen pursuing their own self-interest may be a factor in achieving more sensible zoning practices. By pushing for golf courses, parks, and athletic fields they will help bring much-needed splashes of green to the suburban abstraction.

Sporting activity was little affected by last year's recession. Sales of sporting goods actually increased from 1957 to 1958 and most sports attracted additional participants. Of course, the recession was rather short and the momentum of the sporting boom may have been enough to carry it through. Sports spending, however, often has demonstrated a degree of built-in buoyancy and it's likely that this quality also helped sustain it in 1958.

Leisure spreads when the economy slows down; some people lose their jobs and others work shorter hours. Many turn to sports to keep busy and for diversion. Of course there is a trend to the cheaper types, but it is surprising how much money for sports people can scrape up in bad times. From 1929 to 1932, for example, spending on sporting equipment actually rose as a percentage of total spending for consumer goods. The figure fell thereafter but not sharply.

The more important sports become, the more of a sustaining force they are likely to be in future recessions, especially since personal income is now buttressed by unemployment compensation and other factors. But *will* sports increase or even maintain their current popularity?

In Years to Come

Fortune magazine has suggested that the leisure market may some day become the truly dynamic component in our economy. The demand for necessities, even durables, could be sated but the nation's appetite for leisure activities is unlimited, they say. *Fortune* may be right for leisure as a whole but, remember, sports are only one segment of this market. They compete for the consumer's time and money with many other activities. Hobbies, games, do-it-yourself projects, travel, reading, music, and other pursuits could take the place of sports.

As a matter of fact, sport's own great popularity may ultimately cause this substitution. When the sporting crowd starts crowding sports, it lessens the enjoyment of all concerned. The law of supply and demand would eventually produce the needed facilities but it might not have time to work. Pre-dawn vigils on golf courses, waterways jam-packed with aquatic "hotrodders," fields filled with hunters can quickly drive the most enthusiastic sportsman back to his Monopoly set.

Yes, it's possible that the popularity of sports could wane. There are, however, even stronger reasons to expect it to continue undiminished.

We have enough different kinds of sports to allow for a good bit of shifting. Boating is popular now but if it becomes too crowded a number of enthusiasts can switch to some other sport. Here the automobile will help by enabling sportsmen to go greater distances and pursue a wider range of activities.

The two main forces behind the present boom, increased leisure and income, are likely to continue. There already is talk of a 4-day week, and people are retiring younger every year. Income projections go nowhere but upwards, no matter who is doing the predicting. There should be enough extra time and money to assure an increase in participation in sports as well as in most other leisure activities.

Finally, human instinct may play a part in the sporting boom. Dr. A. L. Chapman of the U. S. Public Health Service thinks so. Commenting on the effects of automation in a *U. S. News and World Report* interview, he says, "We spent hundreds of years getting out of the woods and now we're trying to get back there again—probably in an instinctive hunt for exercise."

Who can predict against instinct? I guess that sports are going to grow and grow.

• *Factual data derived from a survey of business firms*

How Effective Are Industrial Development Programs?

Thomas P. Bergin and William F. Eagan

THE deep concern and thought currently being given by business executives to the question of the effectiveness of industrial development programs cannot be denied. Witness the following statements:

"We feel that state and local aid carefully planned can be beneficial. In too many instances, however, the race for new industry is leading to 'giveaways' that can lead only to detrimental situations in the locality where the industry in question settles."

"We appreciate and take advantage of these offers, but would not consider them essential to opening a new plant. They are more 'frosting on the cake' rather than cake itself."

These are the observations of executives cooperating with us in the appraisal of the real effect of state industrial development programs upon management decisions. They sustain a composite picture: offers of tax relief and financial aid are peripheral—made significant only after a scrutiny of significant elements, such as the availability of labor, markets, and raw materials. Surely this picture accommodates the traditional economic theory concerning industrial location.

About the authors—

Dr. Bergin, a graduate of Notre Dame with a doctor's degree from Syracuse University, is Associate Professor and Head of the Department of Business Organization and Management, University of Notre Dame.

Dr. Eagan, a graduate of Elmhurst College with a Doctor of Social Science degree from Syracuse University, is Assistant Professor of Business Organization and Management, University of Notre Dame.

Still tradition hardly accommodates the current theory of state development agencies in their attempt to attract new industry. These agencies claim that tax exemptions, real estate gifts, and the use of municipal credit are compelling forces in attracting industry. In this area most of the agencies incur their greatest costs. Regardless of colorful brochures, descriptive magazine ads, and newspaper headlines, industry will locate in those areas wherein management foresees opportunities for substantial profit.

Growth of Programs

The states and communities have only recently recognized that industry plays a vital role in their economic well-being and future prosperity. They no longer think of industry as an activity which must be tolerated; rather as one which must be continually supported and stimulated. The desire for new industry, and the prosperity it promises, has brought about the establishment of literally thousands of local development programs throughout the nation. As a result of grass root pressures to attract new and expanding industries most state legislatures have passed statutes enabling the state and local communities to offer aid of various types. A fantastic amount of time, money and energy is being devoted to the various state and community projects.

This quest for new industry is now taking on an international dimension. For example, according to the November 5, 1959, Midwest edition of the *Wall Street Journal,* a group of

North Carolina businessmen have gone to Europe to confer with industrialists who might be interested in building plants in their state. In the same issue it was reported that the people of Yazoo City, Mississippi, not only approved a bond issue of $500,000 to build a plant, but also subscribed individually to $350,000 worth of stock in the corporation.

Types of Programs

In general, there are three types of programs designed to bring about further industrial development for the community. These programs tend to overlap and complement each other and may be classified as follows:

1. State Aid—which is based primarily upon tax exemption and the use of state credit to assist specific companies in their development or expansion.

2. Development Credit Corporations—statewide, privately financed organizations in which some of the resources of the states' private lending institutions are pooled in an effort to provide financial assistance to deserving industrial ventures which would otherwise not have access to risk capital.

3. Civic Programs—private operations of business or civic organizations designed to create an environment which will attract additional industry. In many instances communities have embarked upon rather elaborate municipal programs in an attempt to make their area more desirable to industry. As part of these programs, interested industries are presented with all manner of pertinent data which dramatizes the facilities the community has to offer.

Costs and Rewards

In analyzing the effectiveness of any program it is necessary to consider the costs in relation to rewards. There is a question as to whether the results, particularly in the state aid programs, are commensurate with the costs involved. The many intangible and mercurial contributions to such programs make it almost impossible to calculate the total costs involved. However, one gains some idea of the costs by reviewing the amount of money appropriated by some of the states simply to administer their programs. For example, the Tennessee Industrial and Agricultural Commission was given a $200,000 budget for this purpose in the 1959 fiscal year, while Mississippi set aside $375,000 to administer its Balance Agriculture With Industry Program (BAWI).

These costs are relatively minor in contrast to the loss of revenue through tax exemptions and the risks involved in using state and municipal credit when issuing bonds for industrial purposes.

The Mississippi Program

Mississippi was one of the earliest states to set up a definite program to attract industry by means of special state assistance. As part of its Balance Agriculture With Industry Program, the state has authorized its counties and municipalities to issue approximately $45 million in full faith and credit bonds for industrial construction and other capital goods. If income from rental or sale of these properties is not adequate to retire these obligations, the bonds will have to be redeemed by the use of the taxing power of the community. In addition, the estimated loss of tax income to the communities, according to the report of a legislative committee, was about $500,000 for the 1958 fiscal year.

According to information released by the Mississippi Agriculture and Industrial Board, 145 manufacturing plants have come into the state under the terms of the BAWI program. It is somewhat difficult to determine, with any degree of accuracy, how much of Mississippi's industrialization is a direct result of the BAWI program and how much of it would have taken place anyway as the result of a general movement of industry into the South after World War II. In other words, the effectiveness of any state aid program cannot be determined solely by the total number of industries moving into the state. Rather, it must be judged by the number of plants established primarily because of the attractiveness of the program.

Figures from Louisiana

Another state which has devoted considerable time and money to increased industrialization is Louisiana. Here the record is somewhat more complete and it is possible to evaluate more accurately the actual effects of a program which provides tax relief. William D. Ross, now Dean of the College of Commerce, Louisiana State University, points out that between December, 1946 and June, 1950, new investment under the tax exemption program had reached $355 million.[1] Seventeen per cent of the firms, representing a total investment of $25 million, indicated that they would not have located within the state if the exemptions had not been granted. This tax exemption costs the state and its local subdivisions about $51 million in the ten years the exemption runs. This would seem to indicate that over the ten-year period, the state would lose $51 million in taxes in order to gain an investment of $25 million. However, the figures do not take into consideration the impact of increased payrolls and the resulting demand for service industries. These would obviously increase the tax revenue and have some effect upon the economy of the area.

[1] William D. Ross, *Louisana's Industrial Tax Exemption Program*. Louisiana Business Bulletin, December 1953.

Location Factors Ranked by Management

In evaluating the effectiveness of some typical state aid programs, the authors in 1958 surveyed the management of over eight hundred firms which had recently located or expanded in Kentucky, Tennessee, and Mississippi. The questionnaire was concerned with determining the specific factors management considered most important in selecting the location of their new facilities. Over one-third of the firms answered these questions in detail.

The results of the survey would seem to indicate that the bulk of the funds spent by state development agencies are frequently used for factors which management indicated are not of prime importance in influencing plant location. For instance, a favorable tax structure was mentioned by only 32 out of 272 respondents and was listed first only seven times (see Table 1). "Financial aid" was mentioned only three times. This would tend to demonstrate that the money might have been spent more advantageously in some other fashion.

TABLE 1

REASONS GIVEN BY NEW OR EXPANDED FIRMS FOR CHOICE OF PRESENT LOCATION

Rank	Reasons for Plant Location	Total	Number of times ranked as					
			1	2	3	4	5	Over 5
1.	Availability of labor	143	31	37	20	22	19	14
2.	Convenience to markets	116	32	24	22	13	9	16
3.	Lower labor costs	102	17	14	29	19	16	7
4.	Availability of buildings or other property	99	26	27	10	20	9	7
5.	Availability of raw materials	79	27	18	12	6	6	10
6.	Adequate power	79	8	9	14	21	18	9
7.	Local cooperativeness	76	3	7	9	19	30	8
8.	Less unionization	66	5	18	13	13	12	5
9.	Transportation costs	56	9	10	7	12	11	7
10.	Transportation facilities	44	2	6	11	6	13	6
11.	Home of management	41	15	4	6	8	2	6
12.	Decentralization of operation	39	4	6	10	7	8	4
13.	Favorable tax structure	32	7	1	6	8	7	3
14.	Center of particular industry	29	9	7	0	3	4	6
15.	Financial aid	25	3	5	4	6	6	1
16.	Climate	20	2	4	4	1	5	4
17.	Plentiful water supply	8	1	2	1	4	0	0
18.	Inexpensive plant site	3	0	0	1	0	2	0

According to information gathered in the survey, labor was the most important single factor influencing plant location in these states. More than half of the firms studied indicated that the availability of labor was an important factor in their decision, and 102 stated that lower labor costs were of considerable significance. Although less unionization would seem to be closely associated with the availability and cost of labor, it ranked eighth, having been mentioned by only 66 respondents.

Despite the fact that the availability of labor was mentioned considerably more often than any other single factor, "convenience to markets" was ranked first in importance most frequently (see Table 2). "Lower labor costs" was exceeded in both first and second place by "availability of raw materials" and "availability of buildings." "Less unionization" wound up in eleventh place.

Information from State Agencies

In general, the companies agree with the claims of the state agencies as to the abundance of unskilled and semi-skilled labor. However, a considerable number of these companies found the availability of skilled labor and managerial personnel to be inadequate to their needs (see Table 3).

In areas having a serious shortage of trained labor, some states have established a training wage plan—whereby the state agrees to pay the difference between the individual's productivity and the wages paid by the company. Here a real problem arises as the states compete among themselves in deciding their current offers to new industry. In some instances the differential has amounted to as much as 30 to 40 cents per hour. Thus, managerial decisions support the over-all policy of the state agencies in stressing the availability of labor as a critical factor in determining plant location.

It is obvious from the survey that convenience to markets and availability of raw materials rank high among those factors influencing location (see Table 1). Convenience to markets ranked second in over-all mention and was listed more frequently in first place than any other single factor. Although the state agencies give some attention in their programs to the role and importance of the area as a market, the survey demonstrates that this attribute may have been somewhat neglected.

Availability of raw materials is important as a first and second reason for location, but quickly loses its emphasis after this. Transportation costs and facilities cannot be completely separated from either availability of raw materials or convenience to markets; and

TABLE 2

FACTORS LISTED IN FIRST PLACE AS INFLUENCING CHOICE OF LOCATION

Total Mention Rank	First Place Rank	Reasons for Plant Location	Number of Times Ranked First
2	1	Convenience to markets	32
1	2	Availability of labor	31
5	3	Availability of raw material	27
4	4	Availability of buildings or other property	26
3	5	Lower labor costs	17
11	6	Home of management	15
9	7	Transportation cost	9
14	7	Center of particular industry	9
6	9	Adequate power	8
13	10	Favorable tax structure	7
8	11	Less unionization	5
12	12	Decentralization of operation	4
7	13	Local cooperativeness	3
15	13	Financial aid	3
10	15	Transportation facilities	2
16	15	Climate	2

becomes critical when it is not economically feasible to have both at the same place.

Executives' Comments Support the Statistical Findings

Individual comments made by executives who completed the questionnaire strongly support the statistical findings of the survey. In general, there is widespread appreciation of the need for providing adequate community facilities through enlightened action at the state and local levels. This does not seem to indicate a need for direct financial aid; rather, a genuine spirit of interest and cooperation in assisting the new firms to become established. The following are typical comments:

"I think the trend is away from looking for handouts because there are much more important considerations involved and there is a growing desire by industry to accept its share of the rightful burden. I suppose all companies are continually besieged by Chambers of Commerce and industrial development groups to locate in their areas, but again I don't think these overtures actually have any direct influence. Promotion by these groups is helpful and successful providing it coincides with various basic requirements of the industry in question."

"We prefer not to accept state or local aid as it might influence our decisions as to labor, wage-rates, location, etc."

"In general, communities find, sooner or later, they must tax industry for normal growth. Tax free offers to industry are not good for the community in long-range outlook. Therefore, we are reluctant to accept aid in this form. On the other hand, we will not continue to operate in areas where excessive taxation is the result of poor state or local management."

Thus, while the state agencies continue to stress tax relief and financial aid as primary factors in the attraction of new industry, the survey and individual comments indicate that these initial offers are not nearly so important as the atmosphere of cooperation engendered.

Although some companies look for and accept various forms of aid, the great majority do not want to become involved. They want to pay their own way and become, as quickly as possible, a part of the community. They want to be accepted as people and citizens, not tolerated as a payroll.

TABLE 3

EVALUATION OF THE AVAILABILITY OF LABOR SUPPLY BY NEWLY-LOCATED FIRMS

	Number of Replies			Percentage Answering
	Abundant	Adequate	Inadequate	"Inadequate"
Managerial	10	133	72	33.5%
Supervisory	13	161	42	19.4
Skilled	14	136	81	35.1
Semi-Skilled	71	144	16	6.9
Un-Skilled	181	54	9	3.7

Relevance of Social, Educational, and Political Climate

If several locations offer similar economic advantages, management will place considerable emphasis upon the social, educational, and political climate of the area. This is demonstrated quite well by management's analysis of the municipal services and advantages offered rather than by any program of temporary tax relief. For example:

"We are opposed to local aid except for such things as proper roads, telephones, drinking water supply, in other words items of a general nature to which any citizen has a right, but no

freedom of loans, donations toward property, etc."

"Community's lack of exposure to industry and its problems was a large factor in its inability to materially be of aid in our plant location problems. Poor community facilities, particularly schools, has been a deterrent to obtaining and bringing to our plant good outside supervisory talent."

Communities and States in Open Competition

After weighing carefully the evidence for the need of special inducements as related to the state development programs in Mississippi, Tennessee, and Kentucky, we must conclude that the extensive use of these special inducements has placed the various states and communities in open competition with one another. They must now concentrate, not upon attracting industry, but rather upon influencing the specific location of an industry that has already decided to move into the area.

A most curious spectacle is that of a state or community bidding feverishly against its neighbor. It is questionable whether the total region is heir finally to the great rewards ordinarily expected from the expenditure of time, money, and effort. In this competitive scramble, quite frequently more consideration has been devoted to the race than to the prize. Consequently, the industry attracted has not always been desirable. Evidence exists that some relatively small industries continue to shop around and then move to the area making the highest current bid, thus having no long-term effect upon the economy of any community. Such competitive activity, although beneficial at the moment, can have little or no long-range effect upon the economic development of the region or the nation.

In the light of the apparent variations among the reasons given by management for choosing industrial location, and the programs as conducted by state agencies to attract industry, it would appear that the states and communities should re-evaluate their approach and determine whether or not they are receiving maximum returns for the money and time expended.

Control: A Brief Excursion on the Meaning of a Word

(continued from page 17)

implying and including the reciprocal—being reported to). Another possibility is "comparison." Still another would be the obvious, and simple, "supervision," except that this word has come to apply mainly to the lower levels of managership. There is one word which is perfect for the purpose, and this is "surveillance." The fact that its companion verb, "to surveil," is not yet in Webster need not be a decisive deterrent.

But the difficulty is to get this prescription into the patient. Once a confusion has become embedded in a language, and hence in a culture, there is sometimes only one thing that one can do about it—and that is to wait a couple of centuries.

• *A selected list of*

Recommended Readings in Industrial Relations

Eleanor H. Scanlan

Bittel, Lester R. *What Every Supervisor Should Know.* New York, McGraw-Hill Book Company (330 West 42nd Street), 1959. 451p. $5.50.

A recent issue of "Business Week" stresses the fact that many foremen need more training in order to handle grievances more successfully. The Bittel book goes into the matter of grievances in a section entitled, "Handling gripes and avoiding grievances." This is only one of the many problems of supervision which are covered in the book. The author says:

"It's a humble antidote for too much preaching, too little understanding of the problems that challenge first-line supervisors. Ever since I plunged some twenty years ago into my first supervisory job, I've had the urge to put into writing what I believe are the true facts about supervision. To spell out what techniques really work, and which ones are liable to backfire; where a supervisor fits into his organization, and where the doors are closed; how far he can go, and when his freedom is limited."

Two sections, not usually seen in a book for this echelon of management, point out the supervisor's responsibility in public and community relations, and, "What a supervisor's wife should know about his job." The book contains a six-page bibliography for additional reading and a ten-page listing of visual aids. The author is Industrial Management Editor of "Factory Management and Maintenance."

Bureau of Industrial Relations, The University of Michigan. *Addresses on Industrial Relations—1959 Series.* Ann Arbor, Publications Distribution Service, 1959. 270p. $4.50.

This volume continues the annual series of "Addresses," compiled annually, following the conference programs held by the Bureau during the academic year in four industrial areas in Michigan. This series covers the following subjects: promotion of management teamwork, good man-boss relationships, a full day's work for a full day's pay, experience with white-collar unions, labor unions and monopoly power, preservation of management rights during the life of the collective agreement. The group of papers on the latter subject are especially noteworthy. The authors of all papers in the series are experts in their respective subjects.

Chamberlain, Neil W. *Sourcebook on Labor.* New York, McGraw-Hill Book Company, 1958. 1104p. $9.75.

A veritable gold mine of readings in labor-management relations has been compiled in this volume. Even so, the compiler notes that selection in many instances was difficult since there was such a wealth of material. In final choice he has frequently given different interpretations of the same problem—or, as he puts it, "unfiltered bias" to which we are exposed in actual day-to-day affairs. The book is divided into twenty-four sections of writings by labor leaders, educators, industrialists, political leaders, and government agencies.

Chase, Stuart. *Some Things Worth Knowing: A Generalist's Guide to Useful Knowledge.* New York, Harper & Brothers (49 E. 33rd St.), 1959. 278p. $3.95.

Drucker, Peter F. *Landmarks of Tomorrow.* New York, Harper & Brothers, 1959. 270p. $3.00.

These two books have one thing in common. They whet the appetite for further reading on the subjects of their contents. The Chase approach is much more deliberate in this respect, since its references run to many footnotes, a ten-page reading list, and a list of fourteen reference sources, which the author keeps

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About the author—

Miss Scanlan is Reference Librarian and Assistant to the Director in the Bureau of Industrial Relations of this School.

All items mentioned are on file in the Reference Room of the Bureau of Industrial Relations and may be used by visitors there. Please write direct to the publisher for any items you would like to purchase.

"within easy reach of my desk." He says: "This book is an experiment, possibly a foolhardy one. It is an attempt to distinguish useful and usable knowledge from the vast ocean of facts in the encyclopedias. What should the intelligent layman have ready to mind in the age of the atom?"

He then proceeds to outline in capsule form how science is beginning to show how the universe evolved, what the anthropologists and archaeologists are able to prove to us about the beginning of settled communities—the city and industry—both in the Asian-European area and the Western Hemisphere. There follow sections regarding the patterns of political behavior, language development, the study of human behavior, various cultures, economics and the arts.

The Drucker book is less definitely structured, but it takes the same broad view of what we must know to keep up with our changing world. The author believes that a forty-year-old man is not living in the same world he entered as a child. At the beginning of one chapter he quotes the famous Kipling lines: "East is East and West is West and never the twain shall meet." He points out that this is true in a way Kipling never dreamed, since the East and West, as he knew them, have ceased to exist. The author explains that the book deals with the "post-modern" world of today, and covers three big areas. "The new view of the world, the new concepts, the new human capacities. The new frontiers, the new tasks and opportunities. The human situation—concerned with the new spiritual—or, if one prefers the word metaphysical—reality of human existence. . . ."

Culley, Jack F. and Fred Slavick. *Employment Problems of Older Workers.* Iowa City, State University of Iowa, Bureau of Labor and Management, 1959. 38p. 50¢.

This thoughtful study takes up 1) discrimination in hiring practices of older people, 2) compulsory retirement policies and 3) programs for preparation for retirement. Under these three sections the authors have distilled much of the current thinking regarding the older worker, his chances for employment and retirement practices. Under 1) many of the "reasons" for refusing to hire older people are refuted, in the light of actual facts, and positive suggestions are given for combating this situation. Under 2) discretionary, automatic or mandatory retirement plans, in fifty Iowa companies, are tabulated and compared with studies on a national scope. The authors strongly recommend research on the possibilities of more prevalent use of flexible retirement programs. In 3) examples are given of companies which maintain programs which help employees in the preparation for retirement. This pamphlet has been adapted from a report originally prepared for Iowa's Governor's Commission on Social and Economic Trends.

Hall, Noel Frederick. *The Making of Higher Executives: the Modern Challenges.* New York, New York University, School of Commerce, Accounts and Finance, 1958. 100p. $2.50.

The "Henley Experiment" or more accurately The Administrative Staff College at Henley, is to England what the Advance Management Program at Harvard is to this country. It began its first session in 1948 and the four lectures contained in this book outline the highlights of its experience thus far and make recommendations for modern education.

Sir Noel strongly recommends the closest possible cooperation between the College and the nominating organizations so that the candidates will be those who can gain the most from such a course. He believes "A man should not be asked to make the disturbance in his business and family affairs that attendance for three months at a residential college demands without being consulted prior to formal nomination and without being informed of the reasons why he is being asked to go." Moreover, he believes that any training program not strongly supported at the top does more harm than good.

As to undergraduate education, he pleads for three things—first, that it should stress facility in the use of the written and spoken word in specialized fields, rather than as separate courses in English composition or oratory. Second, he pleads for education in the uses and limitations of figures as a means of communication. Third, he believes the history of the development of various specialized fields is far more important than the superimposing of cultural subjects far removed from this specialization.

This is one of those small, simple-looking volumes that hold the reader's interest from the first word and stimulates the wish for the opportunity and ability to take part in such an "experiment." It is difficult to give more than a random observation or two in a short comment on the book.

Larson, Arthur. *Know Your Social Security,* revised edition. New York, Harper & Bros. (49 E. 33rd Street), 1959. 240p. $3.50.

This is a revision of the book by the same title which was published originally in 1955. It incorporates, of course, all recent changes in the Social Security Act. Invaluable for any one who counsels employees in the interpretation of the Act.

Pieper, Frank. *Modular Management and Human Leadership.* Minneapolis (Box 4090, University Station), Methods Press, 1958. 288p. $6.50.

This unique title introduces a "how-to-do-it" book whose primary purpose is to "help you help your

workers work." It is so "how-to" oriented that the first section is headed, "How to Read this Book." These pages are, of course, the introduction and explain that Chapter 3, "The 'Lead' in Leadership," is the most important chapter in the book. The remaining chapters expand and refer back to that material. The book is addressed to foremen and supervisors and approaches their job and requirements in a clear and logical fashion. It covers all the usual material on induction, job analysis, rating, etc., but these job components are treated in the least hackneyed way that we have seen in a long time. Although the title and opening pages stress the word *modular,* as pertaining to a standard or unit of measurement, the entire book stresses the leadership of workers as individuals. Therefore, we are puzzled as to why this somewhat forbidding word was chosen.

Shippen, Katherine B. *This Union Cause: the Growth of Organized Labor in America.* New York, Harper & Brothers, 1958. 180p. $2.50.

We judge that this book was designed for the younger reader, but there is nothing immature in its presentation. It has much to recommend it to a busy adult who would like to gain some background of the labor movement in this country. Naturally the picture is painted with a broad brush, but for that very reason some points are made more clear than in more learned studies, where the structure of development may be lost in verbiage. It gives a straightforward, unemotional account of the highlights of the labor movement from early colonial times to the AFL-CIO merger in 1955, and the struggle for a guaranteed annual wage.

Springer, John L. "What is the right time to retire?" (Condensed from *The New York Times Magazine*). *The Management Review* (American Management Association), Vol. 48, No. 3, March 1959. pp. 29–32.

This synthesis of current thinking about early retirement is of interest to any company executive who administers such plans, or to employees who see retirement on the not-too-distant horizon. It touches upon the historical basis for compulsory retirement plans which gained momentum during the Depression as a means of maintaining jobs for younger workers. It gives examples of people haunted by lack of funds and boredom. It outlines briefly the mechanics of flexible retirement plans with which a few companies are experimenting today.

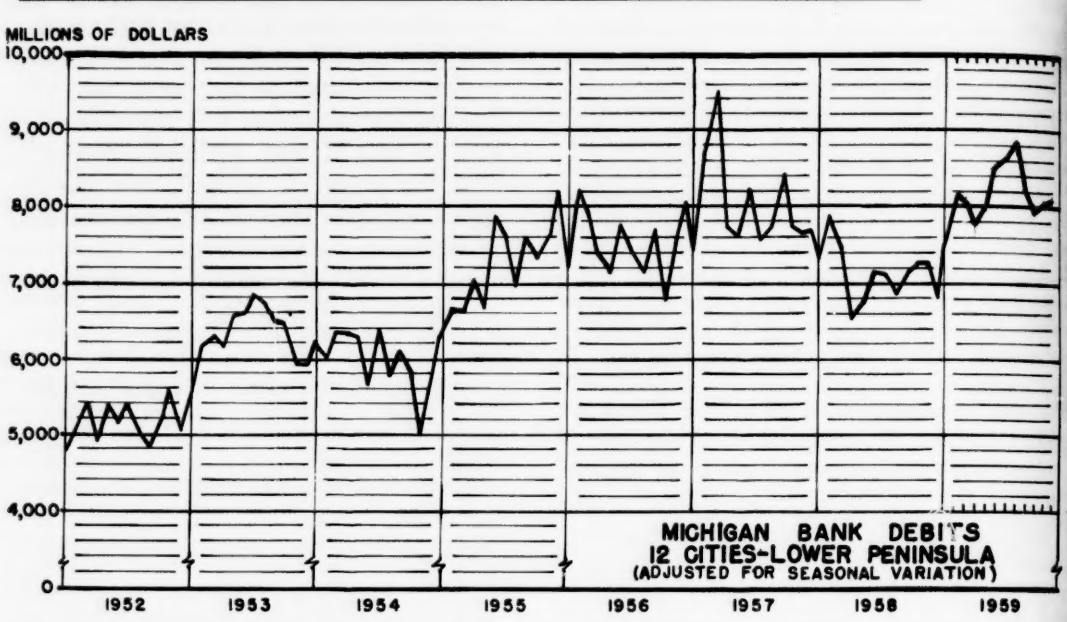
"Supervisory Management" (published by American Management Association) has started a feature entitled, "Let's Get Down to Cases." They state the facts in problem cases which have occurred in actual work situations, followed by a list of questions to stimulate discussion of solutions to the problem. The publishers invite supervisors to send it their tough or interesting cases. It has been our experience that good case material is hard to find. We hope, therefore, that this series will unearth many items which will make good material for training and discussion sessions. Reprint copies of a number of the cases already published are available at ten cents each.

Viteles, Morris S. " 'Human Relations' and the 'Humanities' in the Education of Business Leaders: Evaluation of a Program of Humanistic Studies for Executives." *Personnel Psychology,* Vol. 12, No. 1, Spring 1959, pp. 1–28. (P.O. Box 6965, College Station, Durham, N. C.)

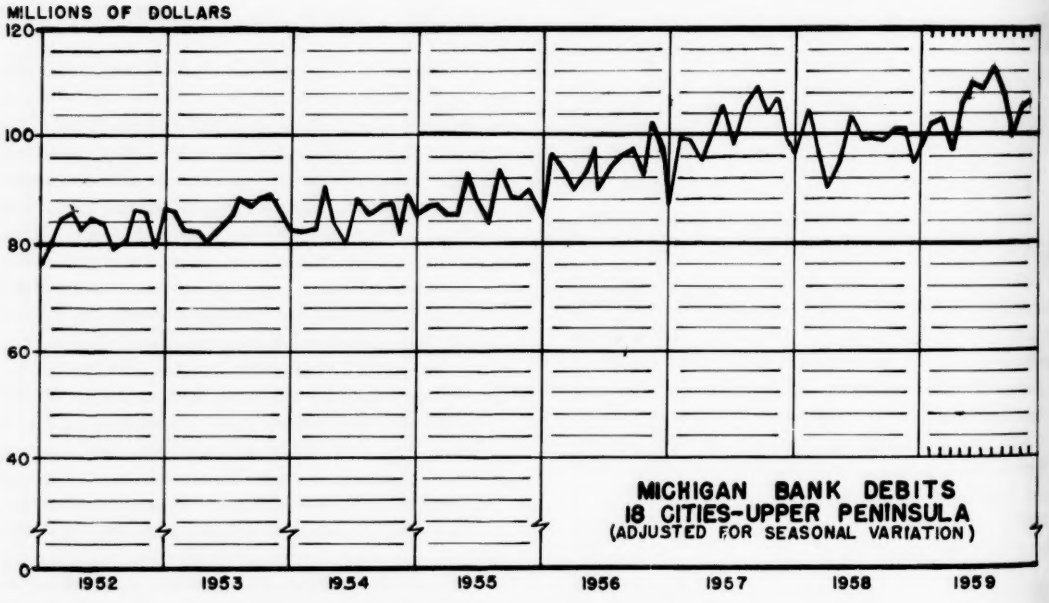
It is understandable that companies hesitate to spend money and the time of their executives on training programs unless it can be proved that such programs will be worthwhile. This article reports developments and experiences with the program of the Institute of Humanistic Studies for Executives at the University of Pennsylvania, which was established in 1953 and is supported by the Bell Telephone System.

It is interesting to note that, with the establishment of the program, an Evaluation Survey was devised to study the results of the ten months' program. Thus far it has been possible to learn only of the immediate results. However, the Survey has been able to answer the following questions: "Have anticipated goals been achieved? Are individuals enrolled in the educational program different in certain respects at the end of the program from what they were at the start of the program? Are observed changes a matter of chance or can they be related to participation in the educational program?" The author believes that the Survey proves quite definitely that participants have "undergone changes concordant with the goals of the educational activity." Long range results will have to await the passage of time. The author says "Perhaps the chief value of the return to humanistic education is the willingness to do something concrete in the way of turning men in the right direction—in the direction of freedom from that social coercion and those emotional distortions which are at the very root of 'creeping conformism' in American life." A bibliography of 55 items refers to background reading.

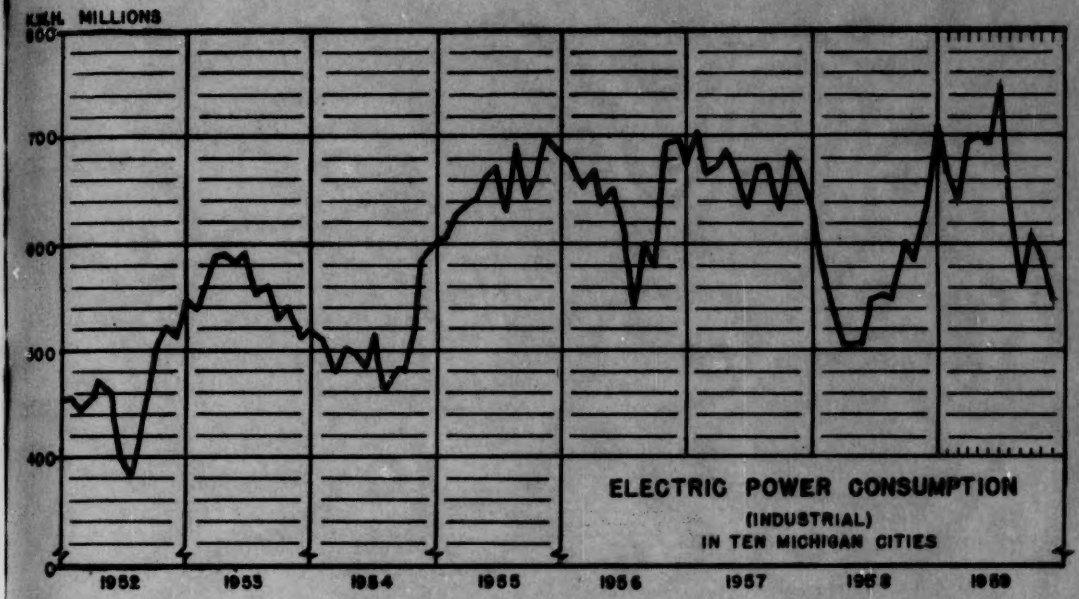
Michigan Business Indicators



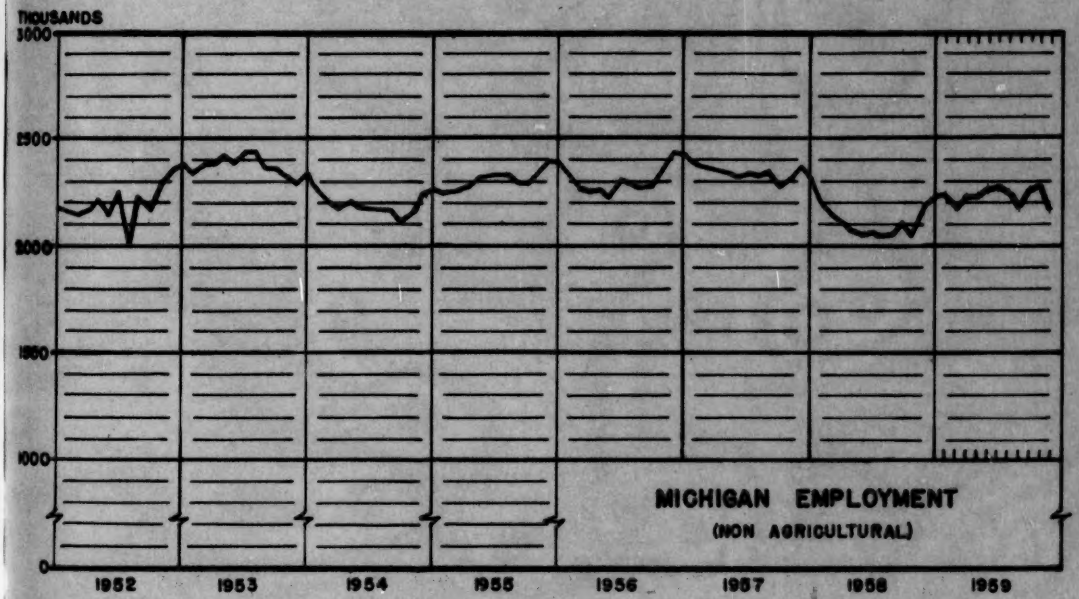
BANK DEBITS–THE MOST ALL INCLUSIVE MEASURE OF BUSINESS ACTIVITY–The downward trend in business activity reversed in the October–November period. The effects of the steel strike tempered the overall gains in the economy.



UPPER PENINSULA BANK DEBITS–The rush in shipping activity to get ore to the steel mills helped raise the year-end Upper Peninsula economy.



POWER CONSUMPTION—Industrial production dropped sharply in late 1959 according to industrial electric power consumption figures. Shutdowns in steel-dependent industries contributed significantly to this drop.



MICHIGAN EMPLOYMENT—The slight increase in October employment is attributed to government (college and university) and auto industry recalls. The November decrease reflects the layoffs in the automobile firms caused by steel shortages.

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